A cardiac catheterization is performed to diagnose and sometimes treat certain heart conditions. A diagnostic left heart catheterization is performed to identify coronary artery disease or valvular disease and assess left ventricular function. A diagnostic right heart catheterization is performed to measure cardiac output, left ventricular filling pressure, pulmonary artery wedge pressure, right heart oxygen saturations, and assess for pulmonary hypertension.

A cardiac catheterization of the left side of the heart is performed through an arterial route. Typically a catheter is introduced through the femoral artery in the groin and advanced to the aorta and then to the coronary arteries in the left ventricle. A left heart catheterization can also be performed through a brachial or radial artery. During a cardiac catheterization, pressure measurements are taken within the heart chambers.

A cardiac catheterization of the right side of the heart is performed through a vein. In a right heart catheterization, a pulmonary artery (PA) catheter, also known as a Swan-Ganz catheter is guided into the right side of the heart and into the pulmonary artery that leads to the lungs. A right heart catheterization checks the pressure and blood flow in the right side of the heart. The vein in the neck is used most often, but the femoral vein can also be accessed for a right heart cardiac cath. In a right heart catheterization via the femoral vein, the catheter is advanced to the inferior vena cava, to the right atrium, the right ventricle and then into the pulmonary artery.

The alphabetic index for Catheterization, heart leads to the root operation Measurement. The codes for a percutaneous left, right, and bilateral cardiac catheterization are 4A023N7 for a left heart cath; 4A023N6, for a right heart cath; and 4A023N8, for a left and right heart cath.

When a Swan Ganz catheter is inserted in the left pulmonary artery in a critically ill patient and left for several days, the root operation is Insertion and the device is a monitoring device. This would be reported as 02HR32Z, Insertion of monitoring device into left pulmonary artery, percutaneous approach.
Angiograms are performed at the time of the cardiac catheterization to assess the coronary arteries for blockages. Angiography in the alphabetic index leads to either plain radiography of the heart or fluoroscopy of the heart. Fluoroscopy is the study of moving structures and enables the physician to see the flow of blood through the arteries and identify any blockages. It also assists in guiding the catheter to a specific location. The alphabetic index for Angiography, fluoroscopy, heart leads to table B21. The body part values in table B21 identifies the structures that are visualized during the angiogram. If the angiogram is performed for multiple coronary arteries and coronary artery bypass grafts, two codes would be reported because the body part value changes.

The fifth character in the code for the angiogram identifies the contrast media.

High osmolar contrasts include: Conray (iothalamate); Renogragin (diatrizoate); Telebrix (ioxitalamate); and Isopaque 370 (metrizoate).

Low osmolar contrasts include Isovue (iopamidol); Omnipaque (iohexol); Optiray (ioversol); Oxilan (ioxilan); Xenetix (iobitridol); Ultravist (iopromide); Hexabrix (ioxaglate); and Visipaque (iodixanol).

A ventriculogram can also be performed at the time of a cardiac catheterization. The physician injects dye into the left ventricle to evaluate the movement of the heart muscle as it fills and pumps blood. It also reveals the size of the ventricle and how well blood flows through the heart valves. The alphabetic index for a Ventriculogram, cardiac leads to the B21 table. The fourth character identifies the ventricle(s) that was evaluated.

A left heart cardiac catheterization with an angiogram of the coronary arteries and left ventriculogram with Isovue contrast media would be reported as:

4A023N7, Measurement of cardiac sampling and pressure, left heart percutaneous approach

B2111ZZ, Fluoroscopy of multiple coronary arteries using low osmolar contrast

B2151ZZ, Fluoroscopy of left heart using low osmolar contrast
Quiz for Coding Cardiac Catheterizations and Angiograms in ICD-10

1. What is the root operation for cardiac catheterization?
   a.) Insertion  
   b.) Monitoring  
   c.) Measurement  
   d.) Introduction

2. A Swan Ganz catheter is used in which type of heart catheterization?
   a.) Left heart  
   b.) Right heart

3. What is the root operation for a Swan Ganz catheter placed in a critically ill patient for three days to monitor cardiac output?
   a.) Monitoring  
   b.) Placement  
   c.) Insertion  
   d.) Measurement

4. What does the fifth character identify in a code for an angiogram?
   a.) The type of contrast media used  
   b.) The number or type of coronary arteries imaged  
   c.) The approach for the angiogram  
   d.) The device character

5. Which procedure evaluates the movement of the heart muscle as it fills and pumps out blood?
   a.) Ventriculogram  
   b.) Angiogram of the coronary arteries  
   c.) Right heart cardiac catheterization  
   d.) Plain radiography of the heart
6. Which contrast media is low osmolar?
   a.) Conray
   b.) Telebrix
   c.) Isopaque
   d.) Isovue

7. What is the body system for cardiac catheterization?
   a.) Coronary arteries
   b.) Cardiac
   c.) Left heart
   d.) Right heart

8. Which access site can be used for a left heart cardiac catheterization?
   a.) Pulmonary artery
   b.) Femoral artery
   c.) Femoral vein
   d.) Subclavian vein

9. Which access site can be used for a right heart cardiac catheterization?
   a.) Pulmonary artery
   b.) Femoral artery
   c.) Femoral vein
   d.) Aorta

10. A left heart cardiac catheterization with angiogram is performed to:
    a.) Assess coronary artery blockage
    b.) Measure cardiac output
    c.) Measure pulmonary artery wedge pressure
    d.) Take pressure measurements